Puma 5 Family of DOCSIS* 3.0 Cable Chipsets

The Puma 5 family of cable modem, Embedded Multimedia Terminal Adapter (EMTA), set-top box (STB), and gateway chipsets provide a flexible and scalable platform on which equipment manufacturers can build systems for compelling next-generation video, voice, and data service offerings. Puma 5 delivers the much anticipated higher data rates supported by both the U.S. and European versions of DOCSIS* 3.0 (Data Over Cable Service Interface Specification).

With DOCSIS 3.0 line speeds starting at 160 Mbps, the Puma 5 family has the flexibility and agility to support a wide range of current and next-generation applications. Starting with basic data-centric cable modem applications like high-speed Internet access, Puma 5 chipsets have the resources for higher end applications such as voice-oriented embedded multimedia terminal adapter (EMTA) services and market-leading digital Internet Protocol-based television (IPTV). The platform’s simple reconfigurability allows operators to deploy the DOCSIS 3.0 capabilities of the Puma 5 family today and be assured that they will be able to cost-effectively upgrade their service offerings to meet the market for compelling multimedia services like IPTV.

Flexible Architecture Optimized for Triple Play
As the first DOCSIS 3.0-compliant solution, the Puma 5 family of chipsets provides a proven and accelerated path to the marketplace for equipment manufacturers. The variety of configurations supported by the chipsets that make up the Puma 5 family gives manufacturers the ability to quickly implement cost-effective, scalable products with targeted capabilities for a wide range of applications. From entry-level high-speed Internet access services to high-end triple-play video, voice, and data service offerings, the Puma 5 family has a ready-to-implement chipset with a configuration adapted to the requirements of the narrow segments that make up the cable marketplace.

Key Features
- Flexible and scalable platform for compelling video, data, and voice applications
- Full U.S. and European DOCSIS* 3.0 data rates starting at a minimum of 160 Mbps
- Multimedia processing architecture
- DOCSIS 3.0 subsystem complete with channel bonding on both upstream and downstream
- Multichannel DOCSIS physical interface configurations:
  - Dedicated VoIP DSP-based subsystem
  - Packet accelerator reduces latencies, increases QoS
  - General-purpose processor
  - Four upstream and four downstream channels (4 x 4)
  - Expandable to four upstream and eight downstream channels (8 x 4)
- High-quality VoIP
  - Versatile home networking
  - Battery-backup control logic
For example, you can implement cost-sensitive residential services with a Puma 5 chipset supporting the minimum—yet still very high speed—DOCSIS 3.0 downstream data rates that start at 160 Mbps. Then, by capitalizing on the channel-bonding capabilities of DOCSIS 3.0 and the Puma 5 family’s flexibility, you can quickly scale upward to higher speed offerings of 320 Mbps or more for business-oriented services. Plus, this sort of rapid redeployment of bandwidth requires no new capital investment in cable operators’ infrastructures.

**Multimedia Processing Architecture**

Central to the Puma 5 chipsets is a multimedia processing architecture that includes a DOCSIS 3.0 subsystem. This subsystem is extremely flexible and supports a wide range of channel configurations, depending on the requirements of the targeted service offering. Puma 5 chipsets have the necessary resources for supporting voice over Internet Protocol (VoIP) with excellent voice quality, even when the platform is performing extensive data or video processing.

**Multichannel DOCSIS 3.0 Scalability**

The DOCSIS 3.0 subsystem maximizes flexibility by supporting a range of channels and channel types, as well as expansion capabilities to accommodate future growth. The Puma 5 family includes a DOCSIS 3.0 physical layer (PHY) interface that is adaptable to a range of U.S. and European configurations and can scale upward to a 4 x 4 configuration. Channel expansion is supported up to eight downstream channels (8 x 4).

**Next-Generation Applications**

The Puma 5 chipsets feature a number of capabilities for easy and cost-effective migration to next-generation applications like IPTV and others. These resources will support a rapid rollout of IPTV service as marketplace demand grows. And no capital investment is necessary in the cable operator’s infrastructure.

Set-top gateway applications involving home networking and multiple STBs throughout the residence are possible with the extensive high-speed networking interfaces of the Puma 5.

**The Puma 5 Family**

The chipsets making up the Puma 5 family have been optimized to meet the cost and performance requirements of the most prevalent market segments in the cable industry.

- **TNETC4800** supports full-functionality EMTA applications, including a battery-backup subsystem.
- **TNETC4810** is optimized for EMTA applications without a battery-backup subsystem.
- **TNETC4830** is an optimized data cable modem platform.

For more information on Intel® Puma 5 Family, visit [www.intel.com/go/cablemodem](http://www.intel.com/go/cablemodem)